

REMARKS / ARGUMENTS

Claims 21-23 and 25-30 remain pending in this application. New claims 25-30 have been added.

Priority

Applicants appreciate the Examiner's acknowledgment of the claim for priority and safe receipt of the priority document.

35 U.S.C. § 103

Claims 21-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Applicants' Admission of Prior ART (AAPA). These rejections are traversed as follows.

Pursuant to a telephone conversation between the undersigned and the Examiner on February 24, 2005, the undersigned explained to the Examiner the differences between the present invention and the art applied by the Examiner, namely JP-A-7-328781 discussed on pages 5 and 6 of the present specification. In particular, it was pointed out to the Examiner that according to the present invention, both sides of a scribe groove along the entire length of the scribe groove are heated in order to create a tensile stress at an opposite surface of the glass sheet. This tensile stress is used in order to cut the glass sheet.

On the other hand, JP-A-7-328781 discloses forming a scribe groove by applying some heat to a glass sheet surface around the scribe groove. Since this method irradiates the glass sheet locally with the laser and forms the scribe groove while moving, problems arise when this method is used to a cutting process for improved throughput. In other words, the speed of the laser light must be increased and if so, the amount of heat to be applied to the glass sheets will also have to be increased in order to permit cutting. This increase in laser irradiation output will cause a distortion around the scribe groove which affects the glass sheets, resulting in cracks in an in-plane direction of the glass sheets. In addition, peeling and other problems may also occur at the cut portion of the glass sheet (see page 5, line 10 to page 6, line 25).

The present invention overcomes these problems by heating the scribe groove at areas on both sides so as to create a tensile stress at an opposite surface of the glass sheet. As shown in Figs. 2B and 3B, if the heated areas are too close to the scribe line (Fig. 2B), then a compressive stress, as opposed to a tensile stress, is obtained on the opposite surface of the glass sheet from the scribe groove. On the other hand, if the heated areas are adequately spaced from the scribe line (Fig. 2A), then a tensile stress that can properly aid in cutting is created on the opposite surface of the glass sheet (Fig. 3A). Thus, the present inventors have carefully analyzed the various methods of cutting a glass sheet and have invented a novel and non-obvious method of cutting a glass sheet.

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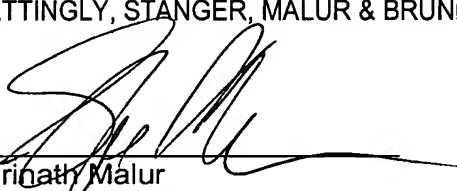
Independent claim 21 and new claim 25 clearly and patentably define the present invention over the cited art. The Examiner is hereby invited to contact the undersigned by telephone with any questions.

Conclusion

In view of the foregoing, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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